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09/995,966	11/28/2001	John Chenault	249768059US	9230

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EXAMINER

ABEL JALIL, NEVEEN

ART UNIT	PAPER NUMBER
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2175

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/995,966	Applicant(s) <i>dk</i> CHENAULT, JOHN	
	Examiner Neveen Abel-Jalil	Art Unit 2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 is/are allowed.
- 6) ☒ Claim(s) 4-35, 37 and 38 is/are rejected.
- 7) ☒ Claim(s) 36 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.

- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

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TECHNOLOGY CENTER 2100

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 4-18, 20-21, 24-35, and 37-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Kumar et al. (U.S. Pub. No. 2002/0042756 A1).

As to claim 4, Kumar et al. discloses a method in a computing system for determining availability status for item groups each containing one or more items, each item having its own availability status (See page 20, paragraphs 0190-0191), comprising:

for each item whose availability status changes (See page 24, claim language 18, and see page 24, claim language 24), for each item group containing the item, adding the item group to a list of item groups if the item group is not already present in the list (See page 24, claim 24 language);

periodically removing a plurality of item groups from the list (See pages 17-18, paragraphs 0159-0161); and

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for each item group removed from the list, determining an availability status for the item group based upon availability statuses of items contained in the group (See page 22, claim 1 language, also see page 22, paragraph 0202).

As to claim 5, Kumar et al. discloses wherein each item group removed from the list is the item group earliest added to the group, but not yet removed (See pages 17-18, paragraphs 0158-0160, wherein “earliest added to the group” reads on “queue”).

As to claim 6, Kumar et al. discloses wherein item groups containing a distinguished item are added to the list in response to receiving an asynchronous message indicating that the availability status of the distinguished item has changed (See pages 2-3, paragraphs 0025-0027).

As to claim 7, Kumar et al. discloses wherein the availability status of the distinguished item is different when it is used to determine availability statuses for the item groups containing the distinguished item than when the item groups containing the distinguished item are added to the list (See page 11, paragraphs 0085-0089).

As to claim 8, Kumar et al. discloses wherein up to a predetermined maximum number of item groups are removed from the list in a single period (See page 8, paragraphs 0058-0062).

As to claim 9, Kumar et al. discloses wherein, if the predetermined maximum number of item groups are removed from the list in a single period, a shortened period is set before next

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removing item groups from the list (See page 8, paragraph 0062, also see page 4, paragraph 0033).

As to claim 10, Kumar et al. discloses a computer-readable medium whose contents cause a computing system to determine availability status for item groups each containing one or more items (See page 20, paragraphs 0190-0191), each item having its own availability status by:

for each item whose availability status changes, selecting each item group containing the item (See page 6, paragraphs 0050-052);

at a distinguished time after item groups have been selected, for each of a plurality of selected item groups that were earliest selected (See pages 11-12, lines 0090-0092):

determining an availability status for the item group based upon availability statuses of items contained in the group (See page 11, paragraphs 0085-0087); and

deselecting the item group (See page 4, paragraphs 0032-0033).

As to claim 11, Kumar et al. discloses wherein an availability status for at least one selected item group is not determined at the distinguished time (See page 8, paragraphs 0061-0062).

As to claim 12, Kumar et al. discloses wherein no availability statuses are determined for unselected item groups at the distinguished time (See pages 5-6, paragraph 0043).

As to claim 13, Kumar et al. discloses a computing system for determining availability status for item groups each containing one or more items, each item having its own availability status (See page 20, paragraphs 0190-0191), comprising:

an item group addition subsystem that adds to a list of item groups, for each item whose availability status changes, each item group containing the item that is not already present in the list (See page 24, claim language 18, and see page 24, claim language 24); and

an item group removal subsystem that periodically removes a plurality of item groups from the list, and, for each item group removed from the list, determines an availability status for the item group based upon availability statuses of items contained in the group (See pages 17-18, paragraphs 0159-0161).

As to claim 14, Kumar et al. discloses one or more computer memories collectively containing a staging data structure for recomputing the availability of bundles of items (See page 2, paragraph 0025), comprising:

for each of a plurality of bundles containing an items whose availability has changed since the availability of the bundle was last computed, information identifying the bundle, such that the contents of the data structure may be used to select bundles for recomputation of their availability (See pages 10-11, paragraphs 0082-0085).

As to claim 15, Kumar et al. discloses wherein the data structure further contains information specifying an order in which the availability of the identified bundles is to be recomputed (See pages 17-18, paragraphs 0158-0160, wherein "order" reads on "queue").

As to claim 16, Kumar et al. discloses wherein the information specifying an order in which the availability of the identified bundles is to be recomputed specifies the order in which the availability of contained items changed (See page 17, paragraphs 0153-0157).

As to claim 17, Kumar et al. discloses wherein the information specifying an order in which the availability of the identified bundles is to be recomputed specifies for each identified bundle a time at which the identified bundle was submitted for recomputation (See page 5, paragraphs 0041-0043).

As to claim 18, Kumar et al. discloses wherein the information specifying an order in which the availability of the identified bundles is to be recomputed specifies for each identified bundle a time at which the availability status of the first item containing the bundle changed subsequent to the last calculation of the availability status of the identified bundle (See page 23, claims 5-6 language, also see page 5, paragraph 0041).

As to claim 20, Kumar et al. discloses wherein the information specifying an order in which the availability of the identified bundles is the physical order of information identifying each of the identified bundles in the data structure (See page 25, claim 30-31 language, wherein “physical order” reads on “hierarchical”).

As to claim 21, Kumar et al. discloses wherein the information specifying an order in which the availability of the identified bundles is a system of pointers between information identifying each of the identified bundles in the data structure (See page 20, paragraphs 0189-0190).

As to claim 24, Kumar et al. discloses a method in a computing system for updating availability information for group items each containing one or more individual items (See page 5, paragraphs 0038-0040), comprising:

- detecting each of a plurality of changes to availability information of individual items;
- in response to each detected change to availability information of an individual item (See pages 3-4, paragraphs 0031-0032);
- identifying group items containing the individual item; and
- updating availability information of each of the identified group items using the current availability information for each of the individual items contained by the group (See page 18, paragraphs 0161-0170).

As to claim 25, Kumar et al. discloses wherein the detecting and identifying is performed in a first process, and wherein the updating is performed in a second process distinct from the first process (See page 24, claims 22-25 language).

As to claim 26, Kumar et al. discloses wherein the detecting and identifying is performed by a first daemon, and wherein the updating is performed in a second daemon distinct from the first daemon (See page 24, claims 22-25 language).

As to claim 27, Kumar et al. discloses wherein the detecting includes transmitting an asynchronous message for each detected change to availability information of an individual item (See pages 2-3, paragraphs 0025-0026, also see page 4, paragraph 0032).

As to claim 28, Kumar et al. discloses wherein the identifying and updating is performed in response to receiving the transmitted asynchronous message (See pages 2-3, paragraphs 0025-0026).

As to claim 29, Kumar et al. discloses wherein the detecting includes broadcasting to a plurality of recipients an asynchronous message for each detected change to availability information of an individual item (See pages 2-3, paragraphs 0025-0026).

As to claim 30, Kumar et al. discloses further comprising adding the identified group items to a group item queue if not already present in the group item queue (See pages 16-17, paragraph 0156-0161).

As to claim 31, Kumar et al. discloses wherein availability information of group items in the group item queue is updated when a scheduling mechanism triggers the updating (See page 6, paragraphs 0050-0052).

As to claim 32, Kumar et al. discloses wherein the identifying and updating is performed immediately in response to the each detected change to availability information of an individual item (See page 17, paragraph 0159).

As to claim 33, Kumar et al. discloses wherein the identifying and updating is performed at a time later than each detected change to availability information of an individual item (See pages 9-10, paragraphs 0069-0072).

As to claim 34, Kumar et al. discloses wherein the detecting includes receiving asynchronous messages each describing a cause for modifying availability information of an individual item (See page 2, paragraph 0025, also see page 24, claim 22 language).

As to claim 35, Kumar et al. discloses comprising, in response to a detected change to availability information of at least one individual item, for at least one of the group items identified as containing the individual item, transmitting an asynchronous message indicating the updated availability information for the group item (See page 2, paragraph 0025).

As to claim 37, Kumar et al. discloses comprising broadcasting to a plurality of recipients an asynchronous message indicating the update of availability information for each of the identified group items whose availability information is updated (See page 14, paragraph 0111, also see page 2, paragraph 0025).

As to claim 38, Kumar et al. discloses a computing system for updating availability information for group items each containing one or more individual items, comprising:

a detection subsystem that detects each of a plurality of changes to availability information of individual items (See pages 6-7, paragraph 0054);

a group item identification subsystem that identifies, for each change to availability information of an individual item detected by the detection subsystem, group items containing the individual item (See page 7, paragraph 0057); and

an update subsystem that updates availability information of each of the group items identified by the group item identification subsystem using the current availability information for each of the individual items contained by the group (See page 7, paragraph 0057, and see page 8, paragraph 0062).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (U.S. Pub. No. 2002/0042756 A1) in view of Lin et al. (U.S. Pub. No. 2002/0077919 A1).

As to claim 19, Kumar et al. does not teach wherein the information specifying an order in which the availability of the identified bundles is to be recomputed specifies for each identified bundle a serial number specifying the identified bundle's position in the order.

Lin et al. teaches wherein the information specifying an order in which the availability of the identified bundles is to be recomputed specifies for each identified bundle a serial number specifying the identified bundle's position in the order (See Lin et al. page 3, paragraphs 0041-0047).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kumar et al. to include wherein the information specifying an order in which the availability of the identified bundles is to be recomputed specifies for each identified bundle a serial number specifying the identified bundle's position in the order.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kumar et al. by the teaching of Lin et al. to include wherein the information specifying an order in which the availability of the identified bundles is to be recomputed specifies for each identified bundle a serial number specifying the identified bundle's position in the order because assigning serial numbers to product items/components.

As to claim 23, Kumar et al. does not teach wherein the data structure is a FIFO queue of unique entries.

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Lin et al. teaches wherein the data structure is a FIFO queue of unique entries (See page 5, claim language 11, also see page 3, paragraph 0034).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kumar et al. to include wherein the data structure is a FIFO queue of unique entries.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kumar et al. by the teaching of Lin et al. to include wherein the data structure is a FIFO queue of unique entries because unique entries in a queue using first in first out method is well known and it provides efficient way of organizing and retrieving items in a queue.

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (U.S. Pub. No. 2002/0042756 A1) in view of Knorr et al. (U.S. Pub. No. 2002/0077929 A1).

As to claim 22, Kumar et al. does not teach wherein the data structure is a queue of unique entries.

Knorr et al. teaches wherein the data structure is a queue of unique entries (See page 3, paragraph 0017, also see page 5, paragraph 0044).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kumar et al. to include wherein the data structure is a queue of unique entries.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kumar et al. by the teaching of Knorr et al. to include wherein the data structure is a queue of unique entries because unique entries in a queue provides efficient way of organizing and retrieving items in a queue.

Allowable Subject Matter

6. Claim 36 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record Kumar et al. -U.S. Pub. No. 2002/0042756 A1- and Knorr et al. - U.S. Pub. No. 2002/0077929 A1- and Lin et al. -U.S. Pub. No. 2002/0077919 A1) do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), the number of units available to sell in the closest time bucket; the identify of the closest time bucket in which units will be available to sell; the range of error in the time bucket the source of the units that are available to sell; whether units can be replenish first time bucket; a source from which units can be replenished if more are needed than are in the first time bucket; the replenishment cycle for the item, whether the item is suspended from sale; when stock in the item is expected to be exhausted, as claimed in claim 36.

Allowance

7. Claims 1-3 are allowed over the prior art of record.

The prior art of record (Kumar et al. -U.S. Pub. No. 2002/0042756 A1- and Knorr et al. -U.S. Pub. No. 2002/0077929 A1- and Lin et al. -U.S. Pub. No. 2002/0077919 A1) do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), initializing a FIFO queue of item groups to be empty; receiving a plurality of messages, each message identifying an offered item and indicating that the availability status of the identified item has changed; in response to each received message: identifying any item groups containing the identified item; for each identified item group: if the identified item group is not present in the queue of item groups, appending the item group to the queue; when a timer expires: for a predetermined number of item groups in the queue of item groups: removing the item group from the queue of item groups; updating the availability status attributed to the item group, based upon availability statuses of the items within the item group; if, after removing the predetermined number of item groups, the queue of item groups is empty, setting a timer having a first duration; and if, after removing the predetermined number of item groups, the queue of item groups is not empty, setting a timer having a second duration that is shorter than the first duration, as claimed in Independent claim 1, in conjunction with remaining claims provisions.

Claims 2-3 are allowed over the prior art made of record, because they dependent from the allowed independent claim 1.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cruse et al. (U.S. Pub. No. 2002/0010659 A1) teaches inventory management and/or control.

Huegel (U.S. Patent No. 5,239,480) teaches automatic ticket dispensing system.

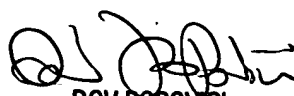
O'Toole (U.S. Patent No. 5,930,761) teaches ticket package management software.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 703-305-8114. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Neveen Abel-Jalil
November 7, 2003


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